

WHAT IS CLAIMED IS:

1. A plasma processing apparatus comprising:
a process chamber for processing by means of plasma;
microwave transmission means for transmitting microwave to said
process chamber;

5 a dielectric for radiating the microwave transmitted by said
microwave transmission means into said process chamber; and

a slot antenna plate formed of conductor, placed on a side, facing
said process chamber, of said dielectric, and including an opening for
passing the microwave therethrough radiated from said dielectric.

2. The plasma processing apparatus according to claim 1, wherein
said opening of said slot antenna plate is positioned directly below
an antinode of a standing wave of the microwave in a resonator constituted
of said microwave transmission means and said dielectric.

3. The plasma processing apparatus according to claim 1, wherein
said slot antenna plate has its potential adjusted at a ground
potential or a positive potential.

4. The plasma processing apparatus according to claim 1, wherein
said slot antenna plate includes a channel for a process gas.